

**TRANSLATION OF INTERNATIONAL APPLICATION****ABSTRACT**

The invention makes it possible to develop the devices for producing nanostructures which are used for manufacturing the semiconductor items having high resolution optical instruments. The inventive device comprises a vacuum chamber  
5 provided with a pumping and annealing system, a unit for introducing the semiconductor wafers into the chamber, a controllable energy ion source, a mass-separator, an electron detector, a holder for the semiconductor wafer, a device for measuring the ion current, a quadrupole mass-analyzer and a computer provided with a monitor and interface. Axes of column of the ion beam transportation, an optical  
10 microscope and electron projector are arranged on the same plane as a normal line to the semiconductor wafer in a working position thereof and intercross at the same point on the front face of the wafer. An optical microscope and electron projector are arranged on the front face of the wafer and have a minimal angle therebetween.